

WHAT IS CLAIMED IS:

1. A fill pack for use in a cooling tower, comprising:

a plurality of substantially planar plates each having a pair of sides and a plurality of interconnected ribs.
2. The fill pack as recited in Claim 1, wherein said plates are formed from a ceramic.
3. The fill pack as recited in Claim 2, wherein said ceramic is a vitrified alumino-silicate
4. The fill pack as recited in Claim 3, wherein said vitrified alumino-silicate is a stoneware.
5. The fill pack as recited in Claim 1, wherein said ribs define a square matrix on each of said plates.
6. The fill pack as recited in Claim 1, wherein said ribs form a plurality of circles on said fill plates.
7. The fill pack as recited in Claim 1, wherein said ribs form a plurality of hexagons on said plates.
8. The fill pack as recited in Claim 1, wherein said ribs are placed on each of said pair of sides of said plates.
9. The fill pack as recited in Claim 1, wherein said plates have a pair of opposing contact edges, said contact edges having a plurality of recesses.
10. The fill pack as recited in Claim 9, wherein said recesses are uniformly spaced on said contact edges.
11. A plate adapted for use in a heat and mass transfer process, said plate comprising:

a plurality of ribs, at least one of said ribs defining an aperture; and
a plurality of ligaments having a pair of sides, said ligaments spanning
opposing ones of said plurality of ribs, said ribs being thicker than said ligaments.

12. The plate as recited in Claim 11, wherein each of said ribs protrude from one of said pair of sides of said ligaments.

13. The plate as recited in Claim 12, wherein said ribs comprise:
a plurality of perimeter ribs surrounding the plate; and
a plurality of interior ribs surrounded by said perimeter frame elements.

14. The plate as recited in Claim 11, wherein said aperture is circular with a diameter of approximately 0.375 inches.

15. The plate as recited in Claim 13, wherein said perimeter frame elements have a thickness of about 0.12 inches.

16. The plate as recited in Claim 13, wherein said interior and perimeter ribs have a width of about 0.12 inches and 0.25 inches respectively.

17. The plate as recited in Claim 11, wherein said ligaments have a thickness of about 0.06 inches.

18. A fill pack for use in a cooling tower, comprising:
a plurality of plates, each of said plates having an aperture; and
a fixing device, said fixing device traversing a plurality of said apertures, said fixing device having engagement portions contacting said plates in said apertures, whereby said engagement portions maintain said plates in spaced apart relationship.

19. The fill pack as recited in Claim 18, wherein said engagement portion comprises a flattened tube portion.

20. The fill pack as recited in Claim 18, wherein said plates are formed of a vitrified alumino-silicate ceramic.

21. The fill pack as recited in Claim 18, wherein said fixing device comprises a corrosion resistant metal tube.

22. The fill pack as recited in Claim 21, wherein said corrosion resistant metal is copper.

23. The fill pack as recited in Claim 18, wherein said fixing device comprises a solid plastic rod.

24. The fill pack as recited in Claim 18, wherein said fixing device comprises a plastic tube

25. A method of forming a fill pack for use in a cooling tower, comprising:
placing a plurality of plates in a jig, each of said plates having an aperture;
traversing said apertures with a fixing device; and
deforming the portions of said fixing device occupying the space between said plates.

26. A method of placing a plurality of fill packs in a cooling tower, comprising:
providing a plurality of fill packs, each of said fill packs being formed from a plurality of plates having a pair of periodically recessed edges; and

placing a first of said fill packs on a second of said fill packs such that there are fewer points of contact between the fill packs than would occur if the fill plates had non-recessed edges.

27. The method of Claim 26, wherein said step of placing a first of said fill packs on a second of said fill packs comprises stacking said first fill pack on said second fill pack

such that said first fill pack is oriented about 90 degrees along a horizontal plane from said second fill pack.

28. A fill pack for use in a cooling tower, comprising:

a plurality of stoneware plates; and

a connecting structure for connecting said plates and forming a fill pack.